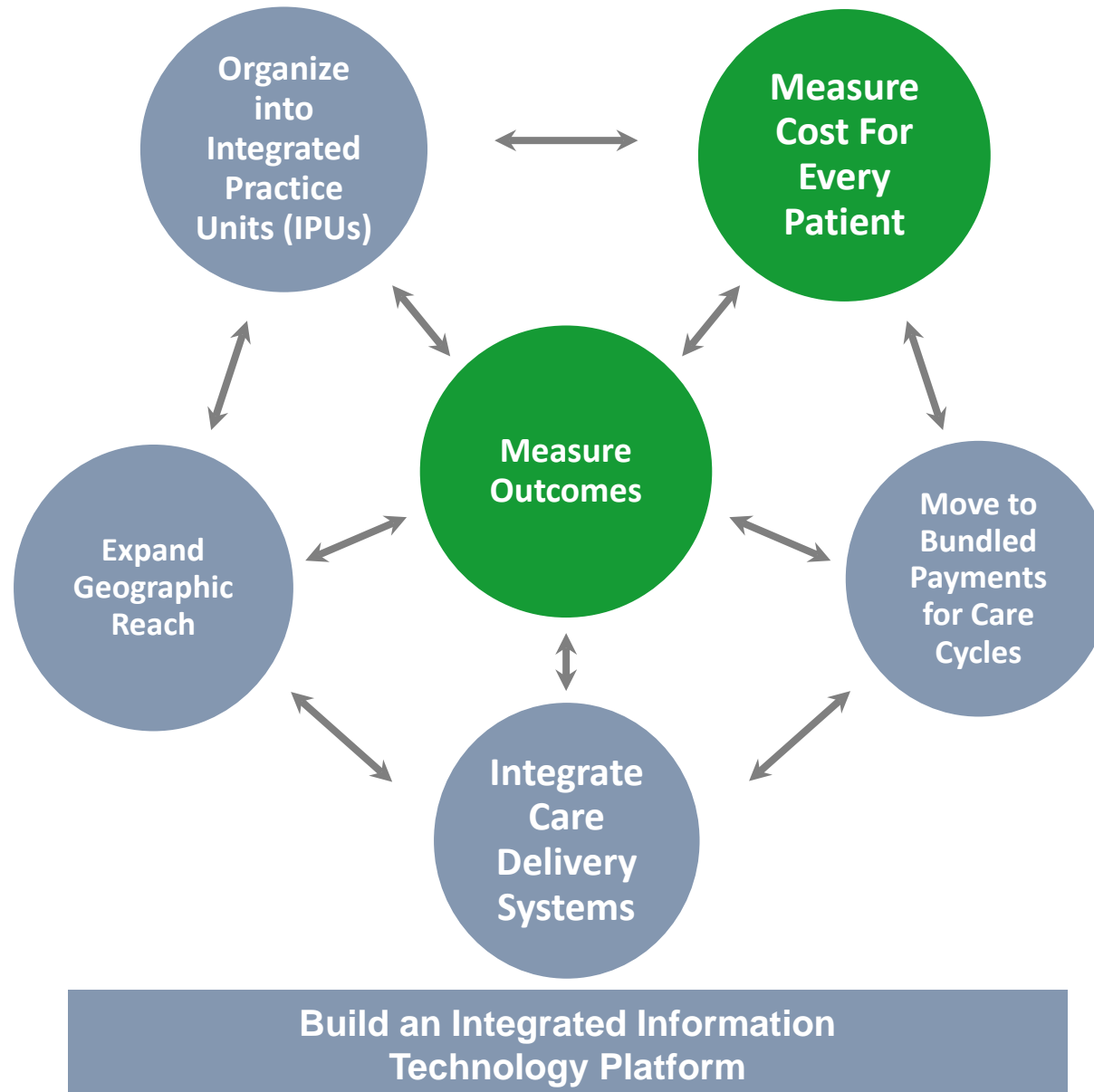


# Outcome Measurement: An Essential Component of Value-Based Health Care

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Value-Based Health Care Delivery Intensive Seminar  
January 15, 2019

# A Mutually Reinforcing Strategic Agenda

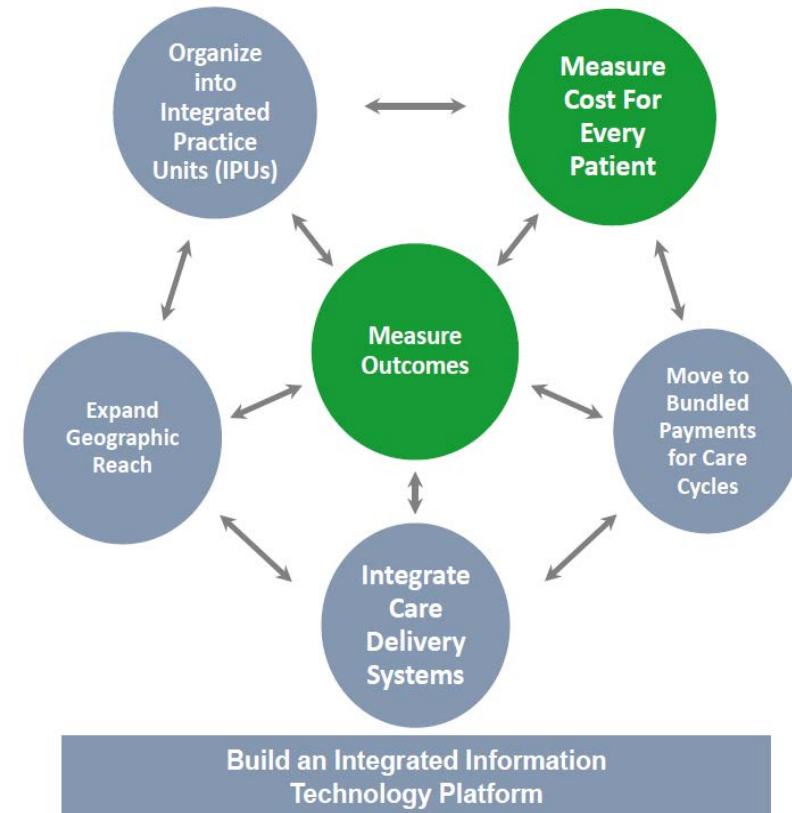


# The Importance of Outcome Measurement

- Outcomes are the most important information for **patients**
- Outcomes **define success** for every physician, health care organization and payor
- Outcomes encourage **multidisciplinary IPU**s and facilitate **care improvement**
- Outcomes highlight and validate **value-enhancing cost reduction**
- Outcomes enable shifting to true **value-based bundled payments**
- Outcomes guide the delivery of the **right services** at the **right locations**
- Outcomes define areas for **service line choices** and **areas for affiliation**



- **Standardization** of outcomes by condition unlocks comparison and improvement



# Evolution of Outcome Measurement



Ernest Codman

1910

- Father of outcome measurement
- Tracked patients with end result cards
- Surgeons refused to participate
- Codman's hospital privileges revoked



Avedis Donebedian

1966

- Described the dimensions of health system quality as structure, process, and outcomes
- Led to widespread measurement of structure and process
- Little progress on outcome measurement



U.S. News – Best Hospitals

1990

- First prominent effort to benchmark hospitals quality
- Structure, process & outcomes adopted as the measurement framework
- Structure measured with objective data
- Process quality inferred from reputation surveys
- Outcomes limited to inpatient mortality



Ken Shine - IOM

2001

- Crossing the Quality Chasm report identified six aims: safety, effectiveness, timeliness, patient-centered, efficiency, equity
- Performance measured by care processes and hospital wide events
- The National Quality Forum focused on process measurement as a practical approach



Despite recognition of its importance, outcome measurement **limited or nonexistent**

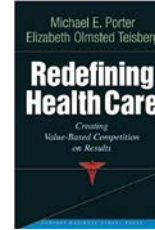
# Evolution of Outcome Measurement



## Measuring Surgical Outcomes

2001

- VA program in 1990s (NVASRS) developed surgical outcome program
- Private sector added in 2001 with ACS to do validated, risk adjusted measurement benchmarked over 30 day post operative period



## Introduction of the Value Agenda

2006

- Outline six steps needed to achieve value
- Spearheaded significant efforts around the world to implement value-based health care



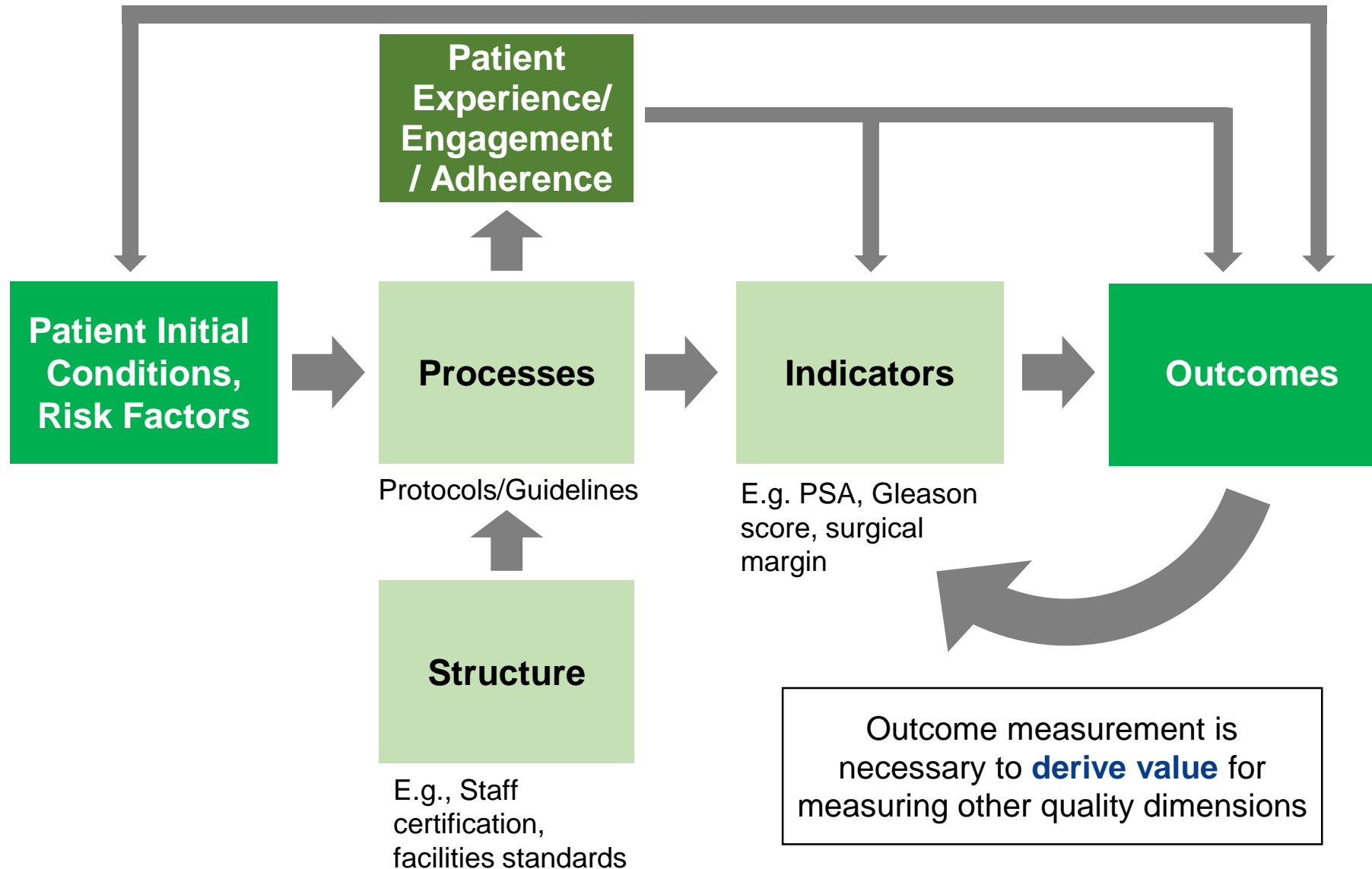
## Creation of Standard Outcome Sets

2011

- Non-profit organization founded by individuals from three esteemed institutions
- Purpose to transform health care systems worldwide by measuring and reporting patient outcomes in a standardized way

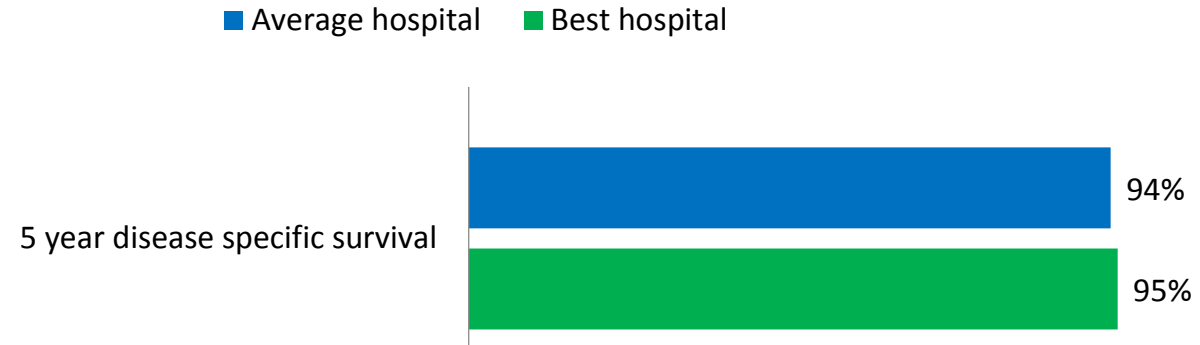
# Measure Outcomes for Every Patient

## The Quality Measurement Landscape



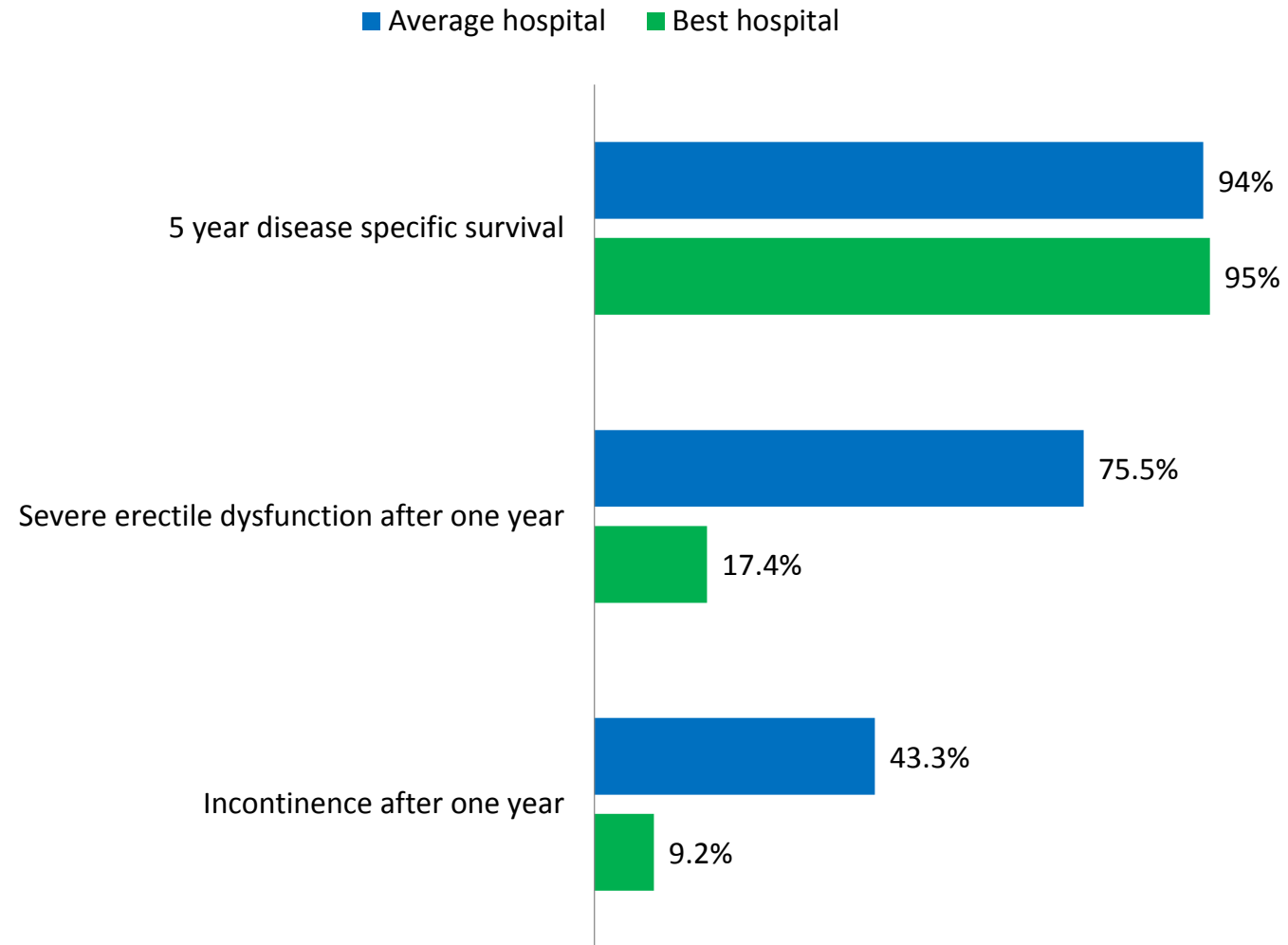
# Measuring Multiple Outcomes

## Martini Klinik Outcomes




# Measuring Multiple Outcomes

## Martini Klinik Outcomes





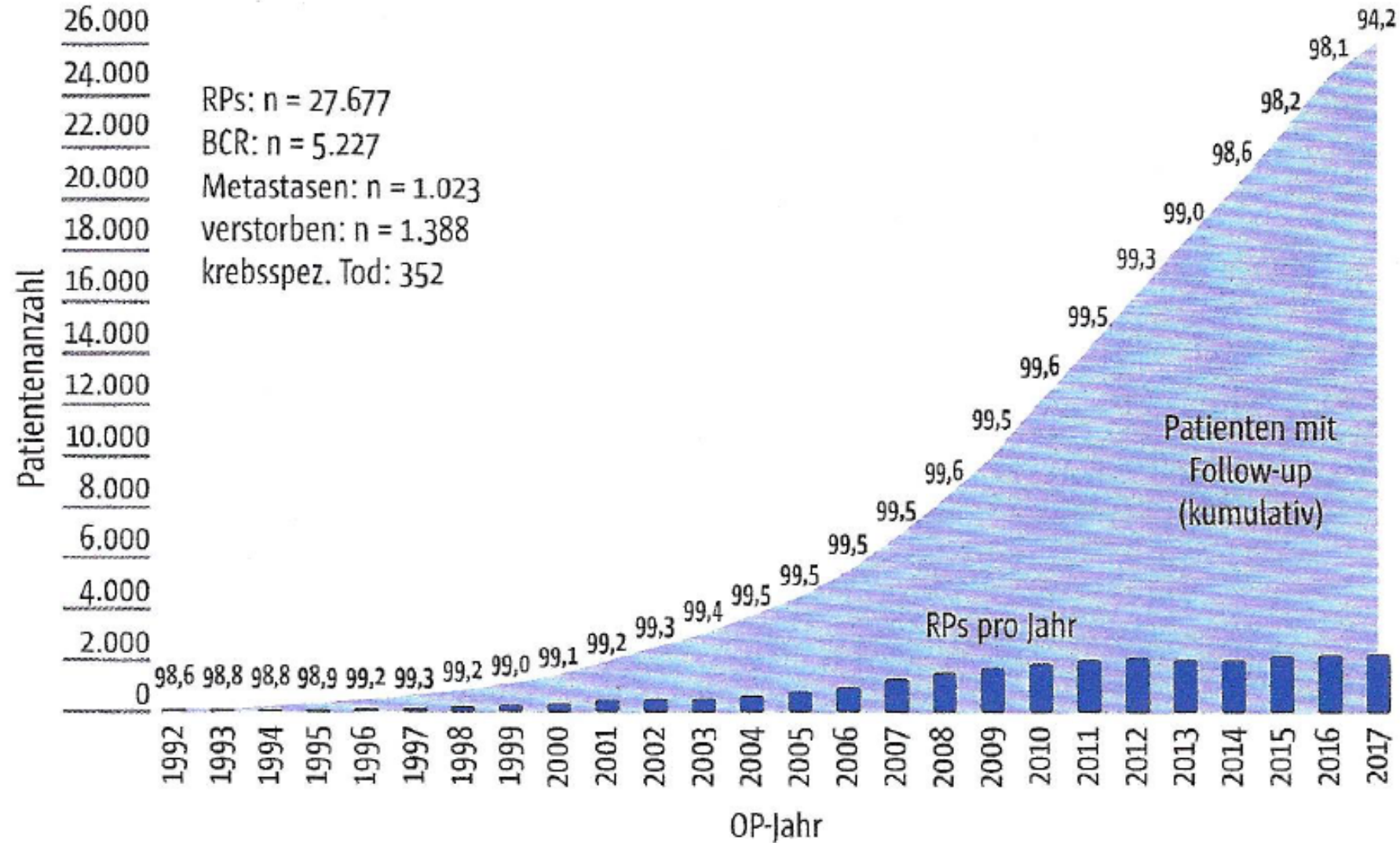
# The Principles of Outcome Measure

- Outcomes should be measured by **condition** or **primary care segment**
    - **Not** for specialties, procedures, or interventions
  - Outcomes are **always multi-dimensional** and include what matters most to **patients**, not just to clinicians
    - **Patient reported outcomes** are important in every condition
  - Outcomes cover the **full cycle of care**
  - Outcome measurement includes **initial conditions/risk factors** to control for patient differences
  - Outcomes should be **standardized** for each condition to maximize comparison, learning, and improvement
- 
- Value-based principles far different than the **historical focus** on **provider behavior**, instead of overall patient success

# How Should Health Outcomes Be Measured?

- **Determining What to Measure**
  - Identify key **stakeholders**
  - Set up a multi-disciplinary project **team** with an influential **leader**
  - Identify standards, **risk adjustment** factors and validated instruments
  - **Involve patients**
  - Use **established measures (ICHOM, NSQIP, STS)**
- **Collecting the Data**
  - Develop a **data-capture** model, tools, and a strategic solution
  - Surveys to measure patient reported outcomes (**PROMs**)
  - Integrate data collection in the **workflow**

# Martini Klinik Patient Follow Up

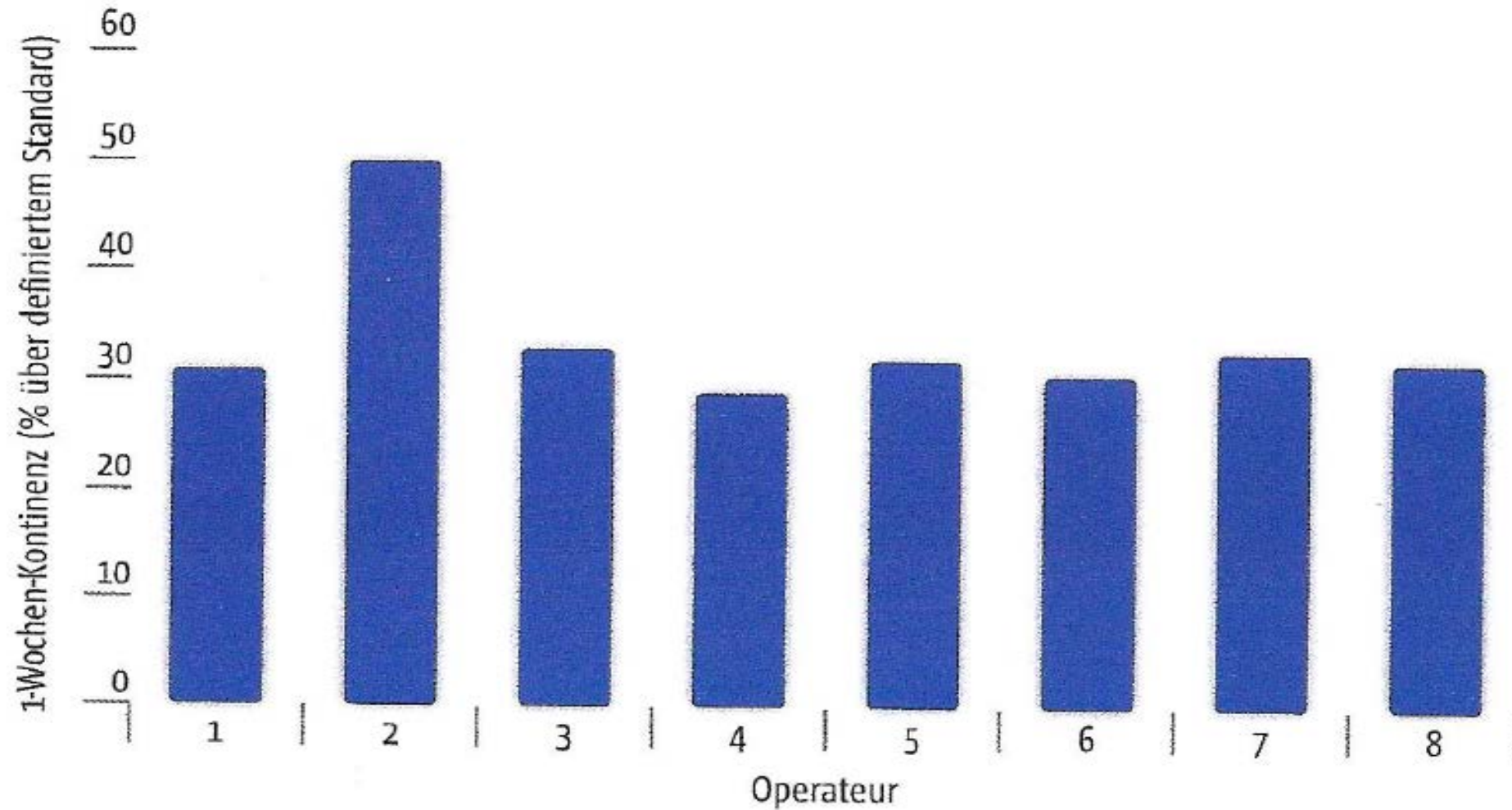


From: Huland H, Graefen M and Deerberg J. *Das Martini-Prinzip*, MWV, mbH& Co, Berlin 2018

# How Should Health Outcomes Be Measured?

- **Analyze and Disseminate**
  - Data **verification** and auditing
  - Apply **risk adjustment** models or report on risk adjusted patient cohorts
  - Compare to registry and other **benchmarks**
  - Report data at multiple levels and with increasing **transparency**
- **Learn and Innovate**
  - **Meet regularly** to analyze and review outcomes
  - Create an environment that allows **open discussion of results** with no repercussions for participants willing to learn and make constructive changes
  - Create mechanisms to **assist providers** whose results are lagging
  - Combine outcome data with **care cycle costing** data to examine opportunities for value improvement
  - Identify best practices and **opportunities for improvement**
  - Create mechanisms to diffuse **best practices** across the team

# Martini Klinik Surgeon Performance Incontinence



From: Huland H, Graefen M and Deerberg J. Das Martini-Prinzip, MWV, mbH& Co, Berlin 2018

# How Should Health Outcomes Be Reported ?

- Begin with **internal reporting to clinicians**
    - Compare outcomes of care teams or physicians over time
    - Compare across locations
    - Move from blinded to un-blinded data at the individual provider level
  - **Expand outcome reporting** over time to include referring providers, payers, and patients
    - An agreed upon **path to external transparency**
  - Work with provider, payers, and government to **standardize measures and methods**
- 
- Ultimately, **universal reporting of standardized measures** will be the strongest driver in value improvement

# Barriers to Outcome Measurement

- Resources devoted to **non-outcome quality measures**
- Lack of a **clear definition** of outcomes
- The need for **standardized outcomes** at the condition level
- Need for **IT tools** to enable seamless outcome collection and aggregation as part of the clinical workflow and from patients
- **Limited incentives** and **mandates** for outcome collection
  - Need to move value-based payment model (e.g. bundled payments)
  - Mandatory collection and reporting



# Breaking Down the Barriers to Outcome Measurement

- Effectively **integrate care** for conditions
- Build a **framework** for determining outcomes at the **condition** level
- Address the current high **hurdles** for **validating** outcomes
- Address the **cost** and **complexity** of measurement
- **Incentivize** good outcomes
- Work with **organizations** focusing on outcome measurement





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**21st Century PROMs – how patient outcomes and data analytics will transform healthcare and improve lives.**

Dr. Neil Bacon  
President and Chief Executive Officer  
@neilbacon

# Variation in health outcomes is a worldwide problem

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**2x** variation in 30-day mortality rate from heart attack in US hospitals



**4x** variation in bypass surgery mortality in the UK hospitals



**5x** variation of major obstetrical complications among US hospitals



**9x** variation in complication rates from radical prostatectomies in the Dutch hospitals



**18x** variation in reoperation rates after hip surgery in German hospitals



**20x** variation in mortality after colon cancer surgery in Swedish hospitals



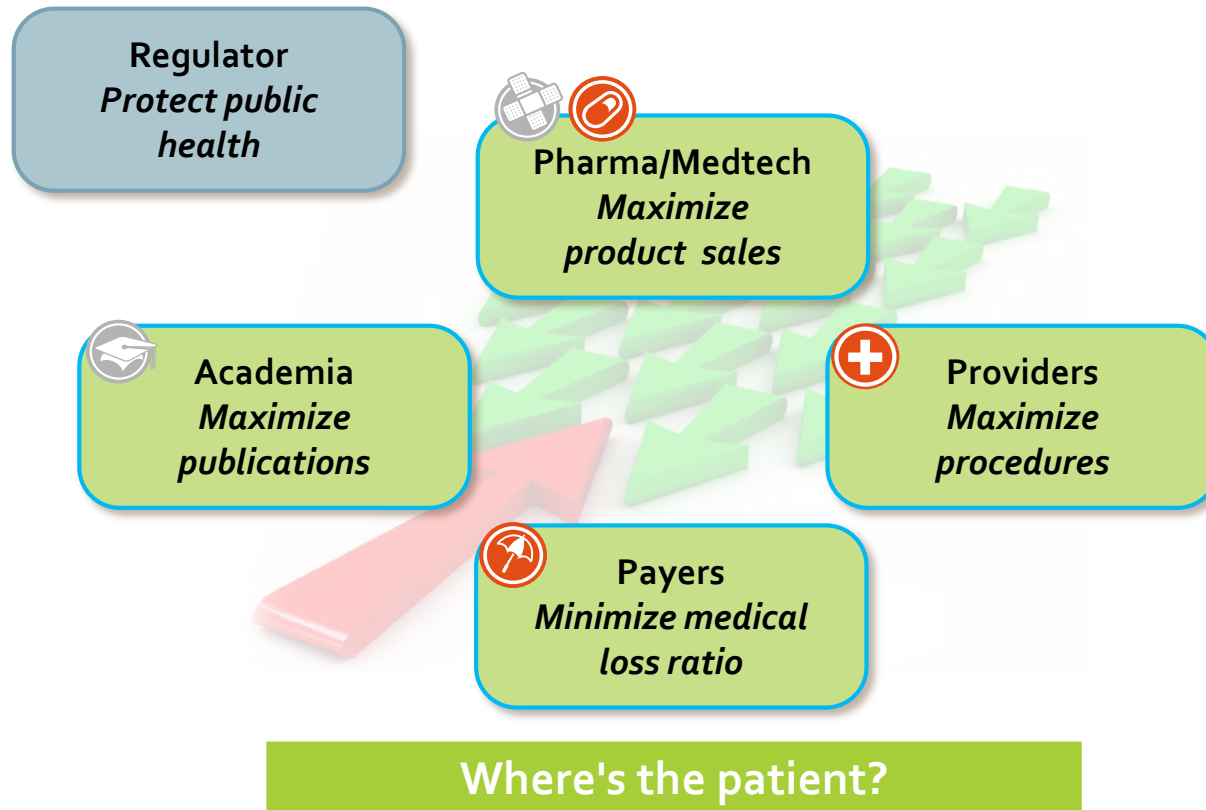
**36x** variation in capsule complications after cataract surgery in Swedish hospitals



**But, for outcomes that matter most to patients – improvement in their symptoms, functioning, and well-being – this only begins to describe the magnitude of the problem.**

# Healthcare versus TripAdvisor...

It's difficult to make decisions about best health care options...



Confounding factors

- 1 **Large variation in outcomes** generates "noise", making evaluation of all treatments, especially innovations, difficult
- 2 **No commonly agreed definition of health "quality"** (nor of outcomes)
- 3 **Limited transparent, outcomes data** available to evaluate treatment options
- 4 **Misaligned incentives and market inefficiencies** skew treatment choices, worsening outcomes

# We need standardisation so that we can meaningfully and reliably compare the *same* outcomes

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Comparing apples with  
oranges is a lot harder than....

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...comparing apples with apples

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Measuring different outcomes in different ways  
makes it impossible to meaningfully compare

# ICHOM was founded to define standards for global outcomes measurement and accelerate adoption and international benchmarking

## Where we come from

Three organizations with the desire to unlock the potential of value-based health care founded ICHOM in 2012:



### ICHOM is a nonprofit

- Independent 501(c)3 organization
- Ambitious yet achievable goals
- Global focus
- Engages diverse stakeholders

## Our mission



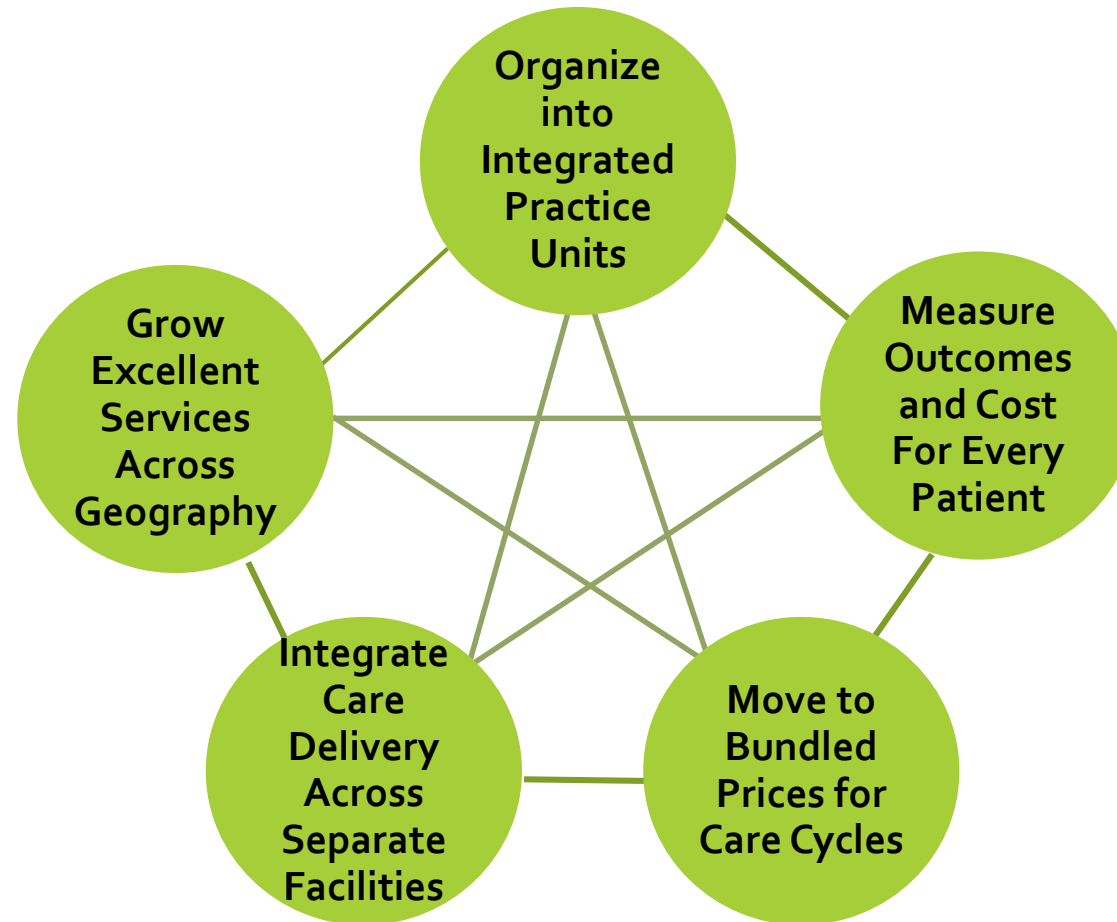
### Our mission

Unlock the potential of value-based health care by **defining global Standard Sets of outcome measures that really matter to patients** for the most relevant medical conditions and by **driving adoption and reporting** of these measures worldwide

$$\text{Value} = \frac{\text{Patient health outcomes achieved}}{\text{Cost of delivering those outcomes}}$$

# Six building blocks of Value-Based Healthcare strategy

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**Build an Enabling IT Platform**

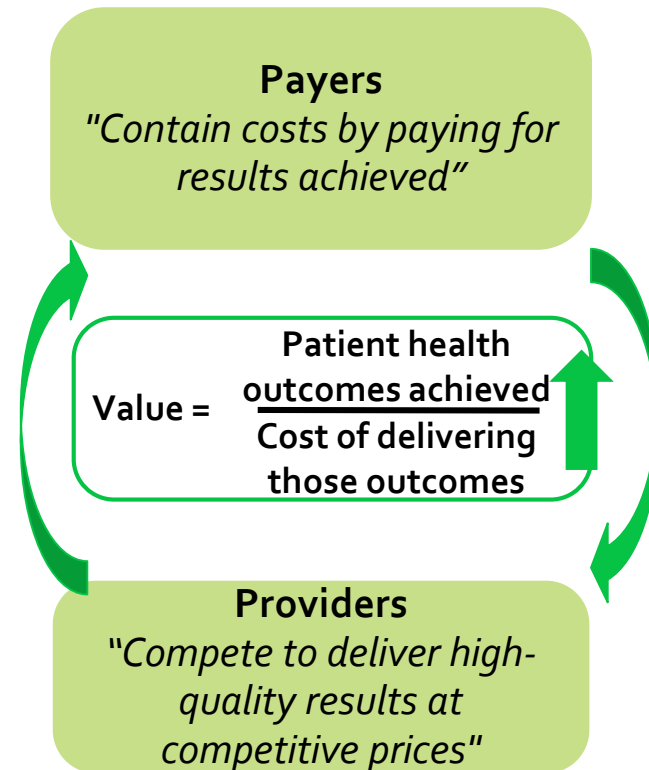
# **Process: standard outcomes, data harmonization, benchmarking +**

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- 1. Standard outcomes for each disease and condition (aim to cover global disease burden)**
- 2. Internationally meaningful, accepted and practical across care-settings**
- 3. Harmonized outcomes data collected from multiple centres**
- 4. IT-enabled data platform**
- 5. Enable rapid local, national and international benchmarking**
- 6. Central data repository of outcomes facilitates AI-powered analytics: multiple secondary uses of data**

# Focus of health care must shift to value – where outcomes are those that matter to patients

We believe in a model where value is at the center of health care...



... which will impact every stakeholder



**Patients** will choose their provider based on its expected outcomes and their share of the cost



**Providers** will differentiate into areas where they deliver superior outcomes at competitive prices



**Payers** will negotiate contracts based on results and encourage innovation to achieve those results



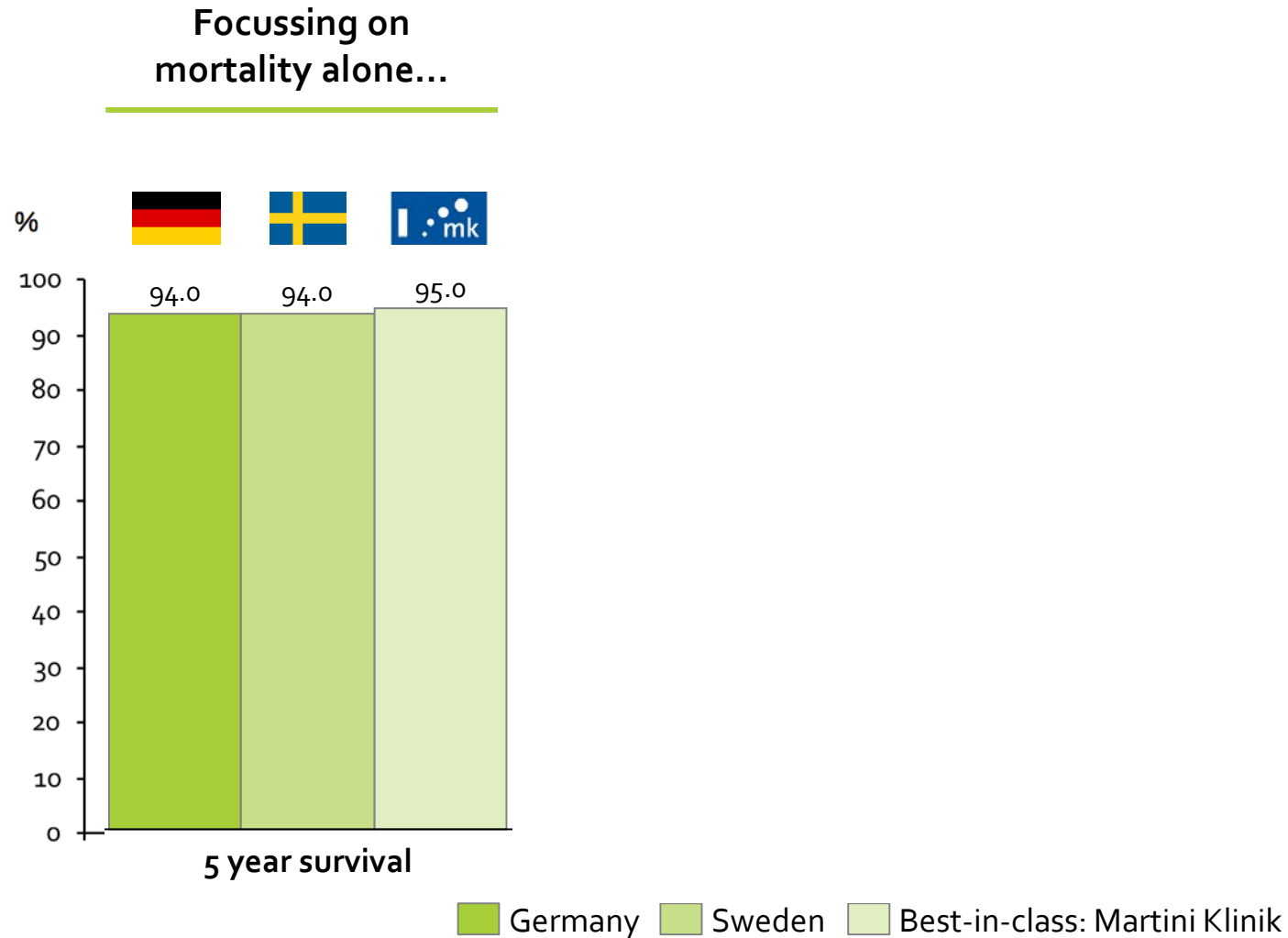
**Suppliers** will market their products on value, showing improved outcomes relative to costs



# Why measuring and reporting meaningful outcomes matters

## Comparing outcomes of prostate cancer care

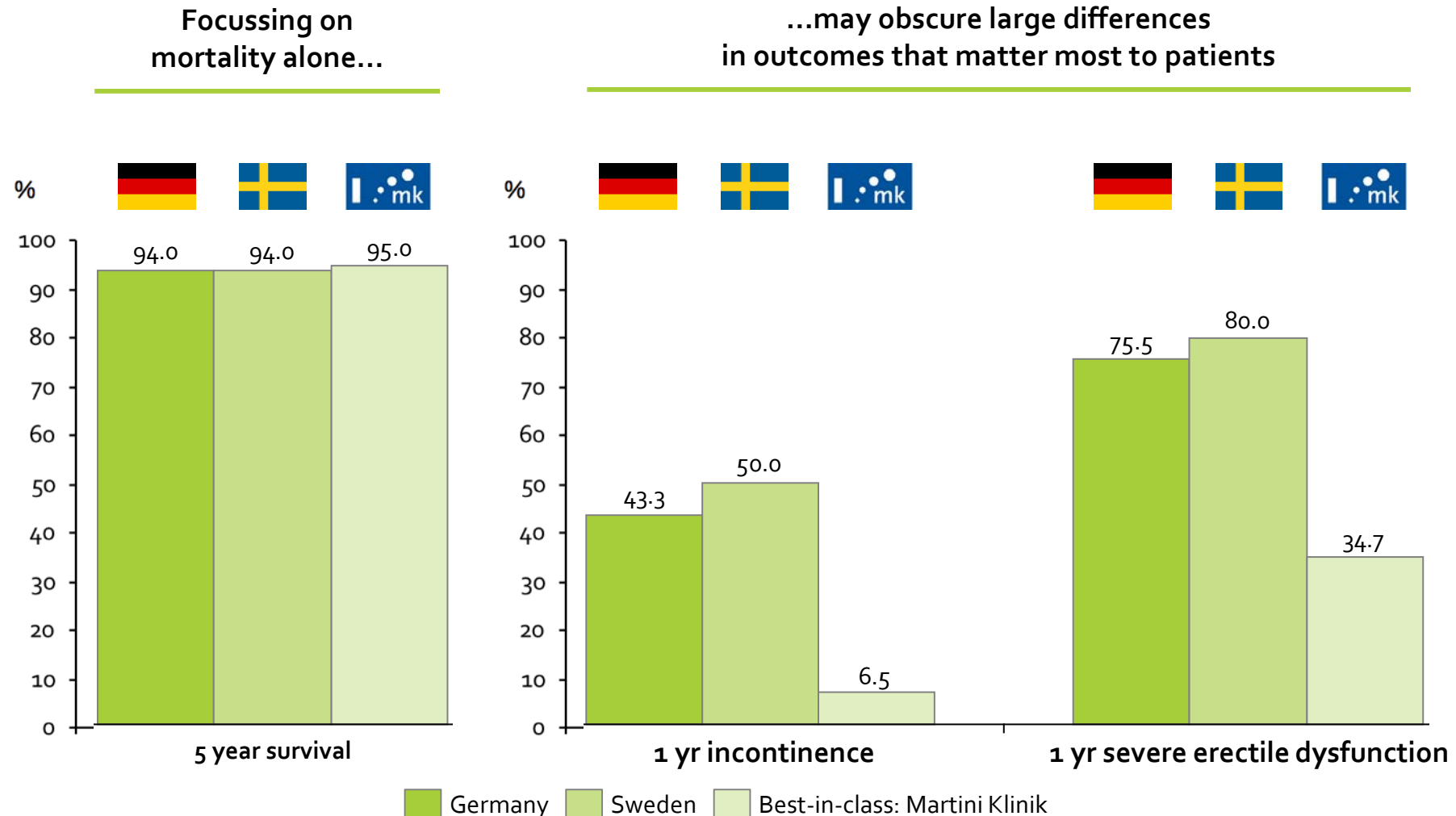
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Swedish data rough estimates from graphs; Source: National quality report for the year of diagnosis 2012 from the National Prostate Cancer Register (NPCR) Sweden, Martini Klinik, BARMER GEK Report Krankenhaus 2012, Patient-reported outcomes (EORTC-PSM), 1 year after treatment, 2010

# Why measuring and reporting meaningful outcomes matters

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# How do we define a health outcome?

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***“Outcomes are the results people care about most when seeking treatment, including functional improvement and the ability to live normal, productive lives.” – ICHOM***

# ICHOM is creating standard global outcomes *in partnership*

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## What are ICHOM Standard Sets?

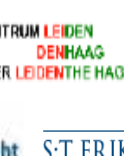
- Set of **10-15 outcomes** that matter most to patients by condition
- Comprises both clinician- and patient-reported outcomes
- Includes **case-mix variables, measure definitions, and measurement time points**

## Who develops them?

- **International, multidisciplinary** Working Group of clinical experts
- **Patient representatives** play key role in selecting outcome domains
- Iterative consensus process to agree on final recommendation

## Who is endorsing them?

- Strong support from **patient advocacy groups**, e.g., Movember and the AHA
- Active engagement with **governments, payers**, e.g., Scottish Government, CMS (US)



32 Countries  
650+ Organizations  
13 National Registries

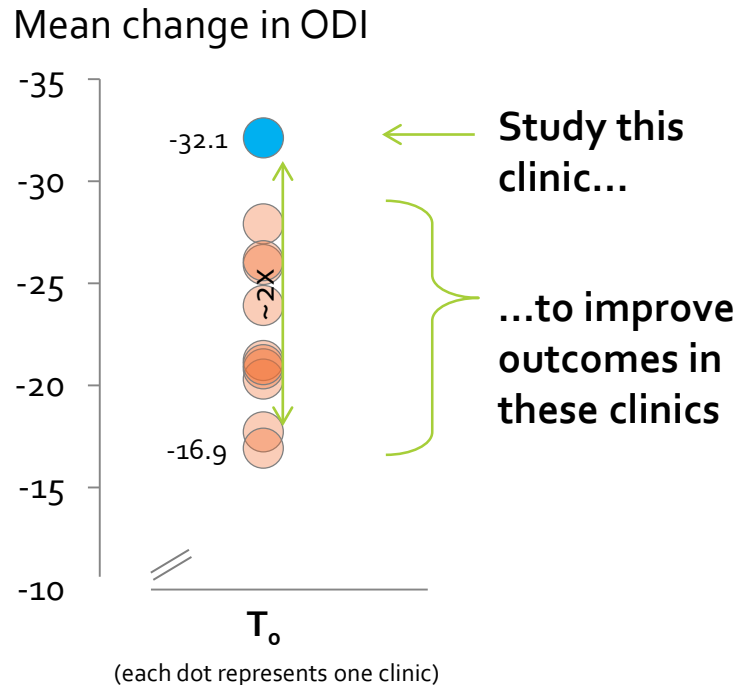


- 25 Outcome measures defined
- Accelerating process to produce further 25 in two years
- Harmonising sets = EMR integration
- Bring together life sciences, clinicians, providers and payors

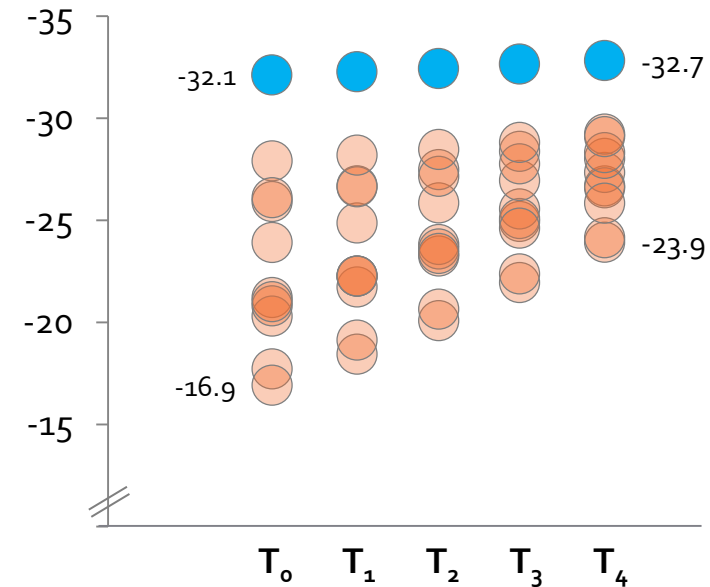


# The theory of (transparent) benchmarking

Large variation exists in the outcomes achieved by different healthcare providers



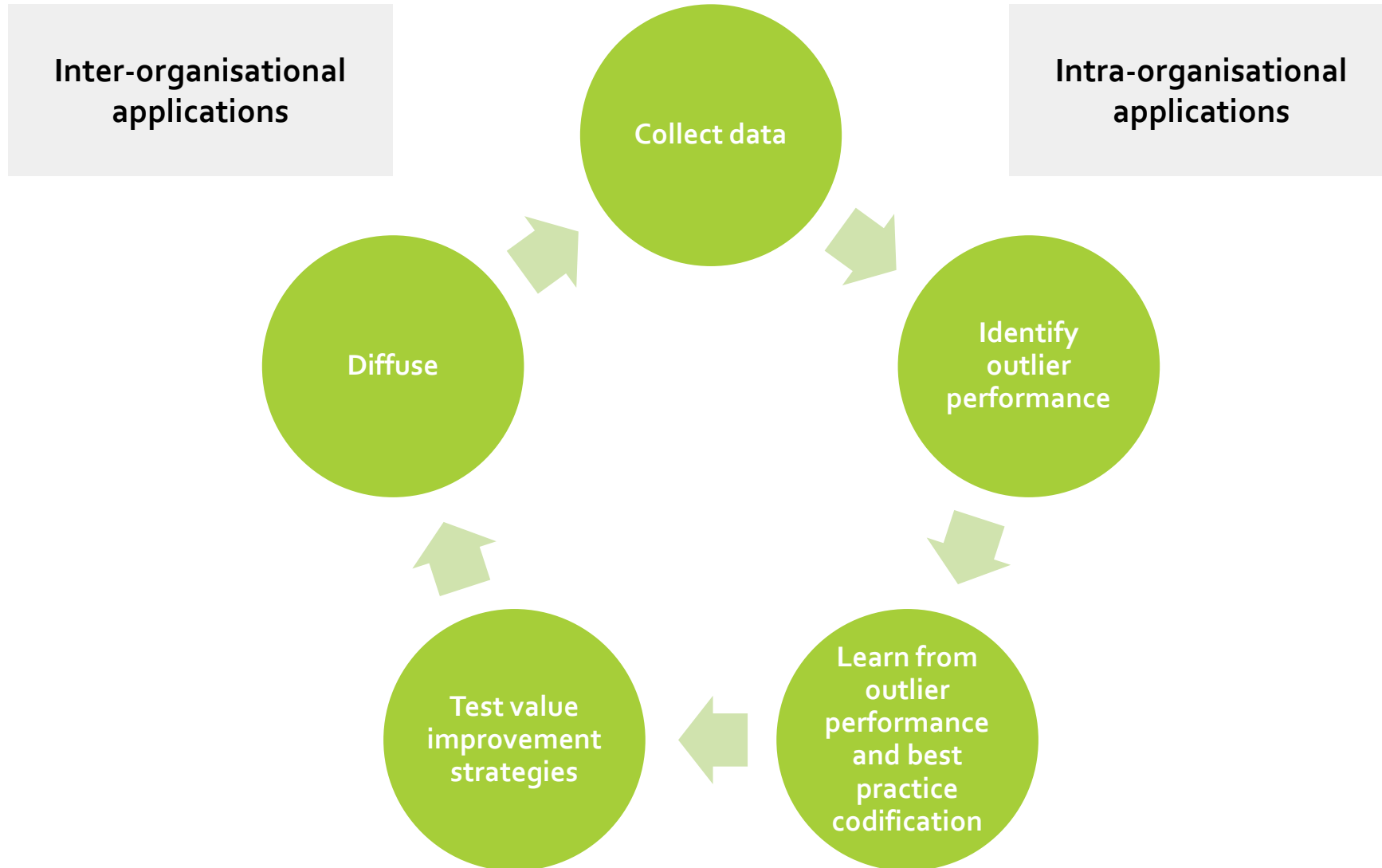
Benchmarking will cause variation to narrow and performance to improve





# Outcomes data applications – virtuous learning cycle

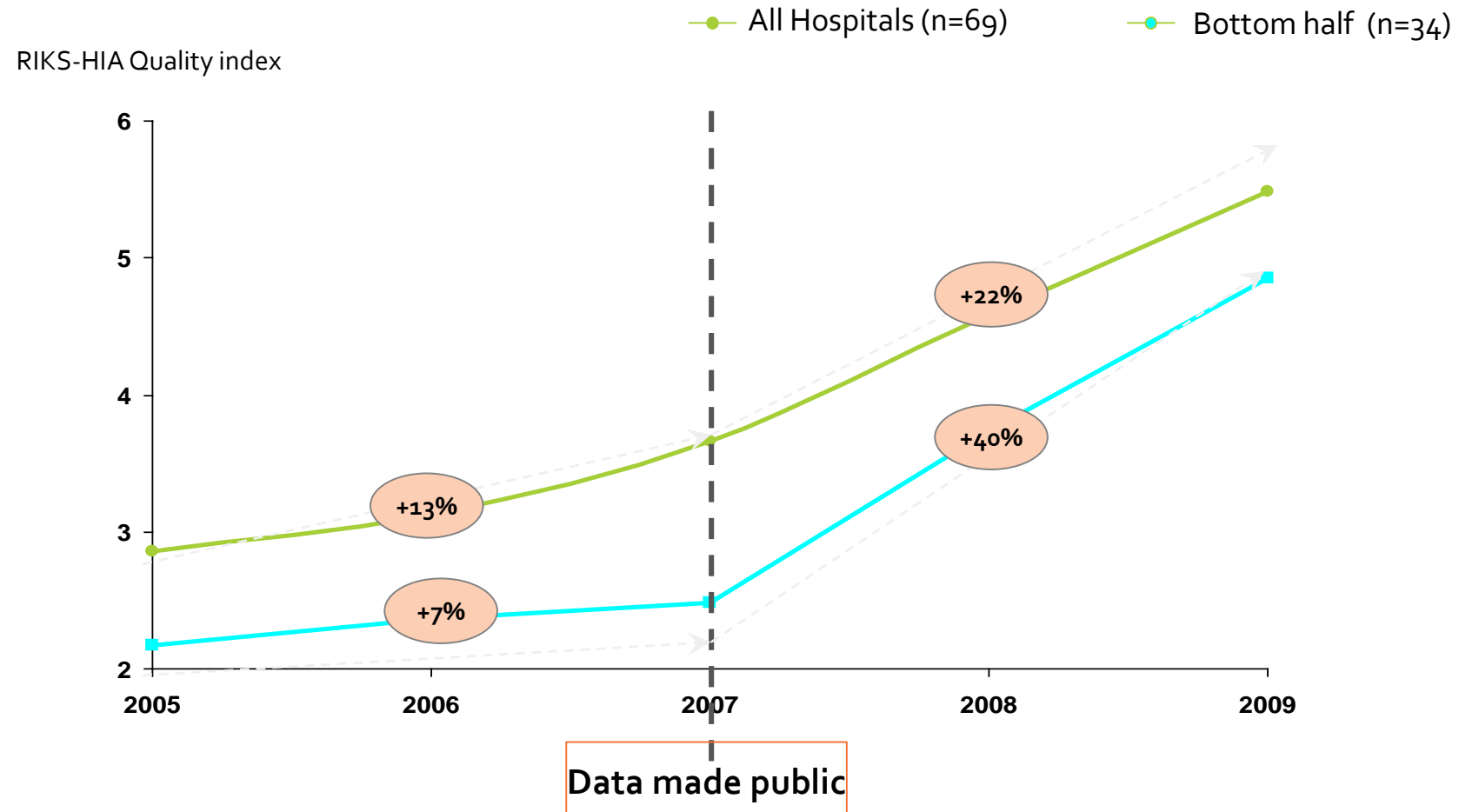
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# The Swedish myocardial infarction registry

The power of measurement and transparency on compliance to guidelines



Measurement and comparisons alone fuels adherence;  
transparency accelerates it

# Learning from positive deviance: aggregated outcomes data can help answer many of the questions we face in healthcare today

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## Direct clinical care

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- 1 How is our patient doing today?
- 2 How can help the patient understand what to expect
- 3 How do we know when an intervention may be warranted?
- 4 How can I make better decisions for my patient/for myself in the clinic?



## Comparison & benchmarking

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- 5 How can I measure what I achieve?
- 6 Where does my hospital stand?
- 7 How do I improve the quality of care at my institution?
- 8 How can I learn when my patients fall below an acceptable threshold?



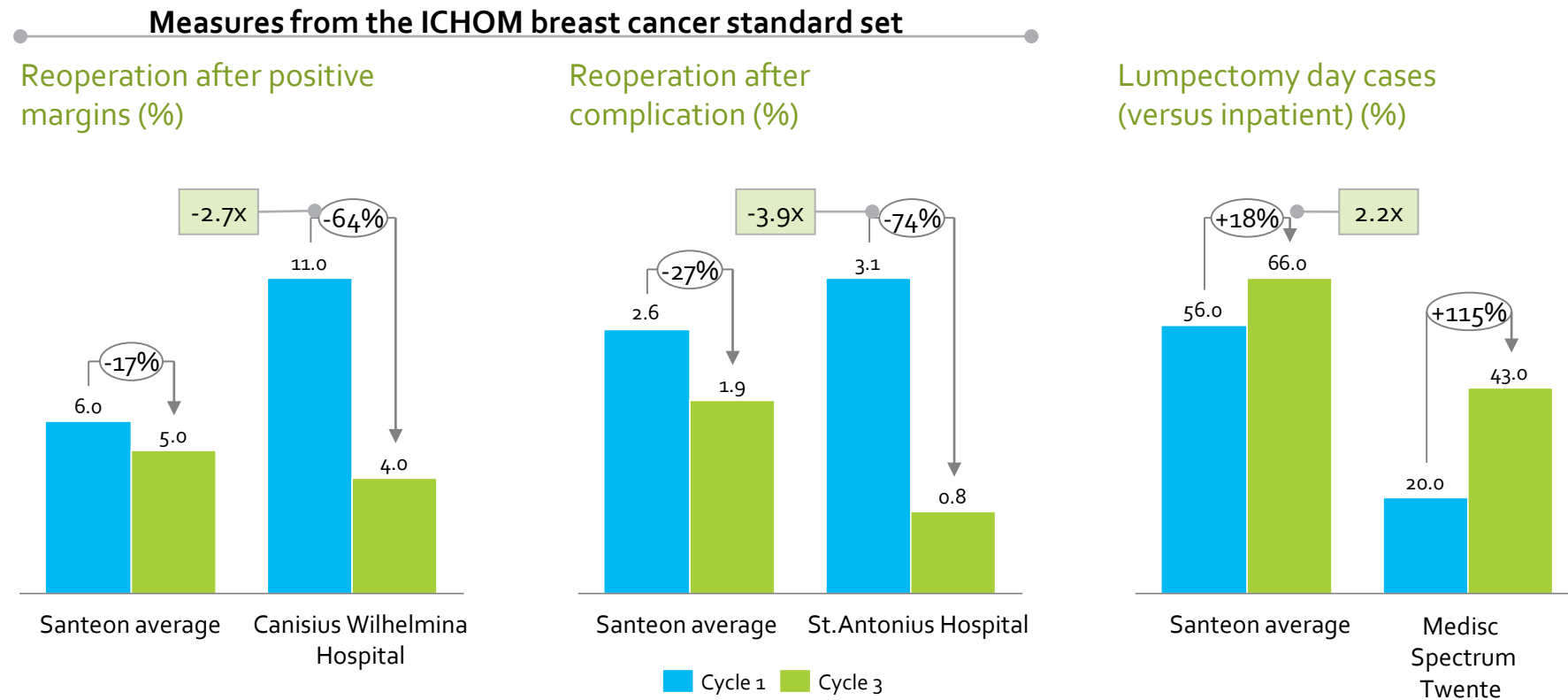
## Systems-level use of data

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- 9 How can I better design payment models?
- 10 How can we design better studies?
- 11 How can we assess if current interventions are effective ?
- 12 How do we determine acceptable quality of care & improve treatment guidelines?
- 13 How can I segment and leverage subgroups of patients based on response?

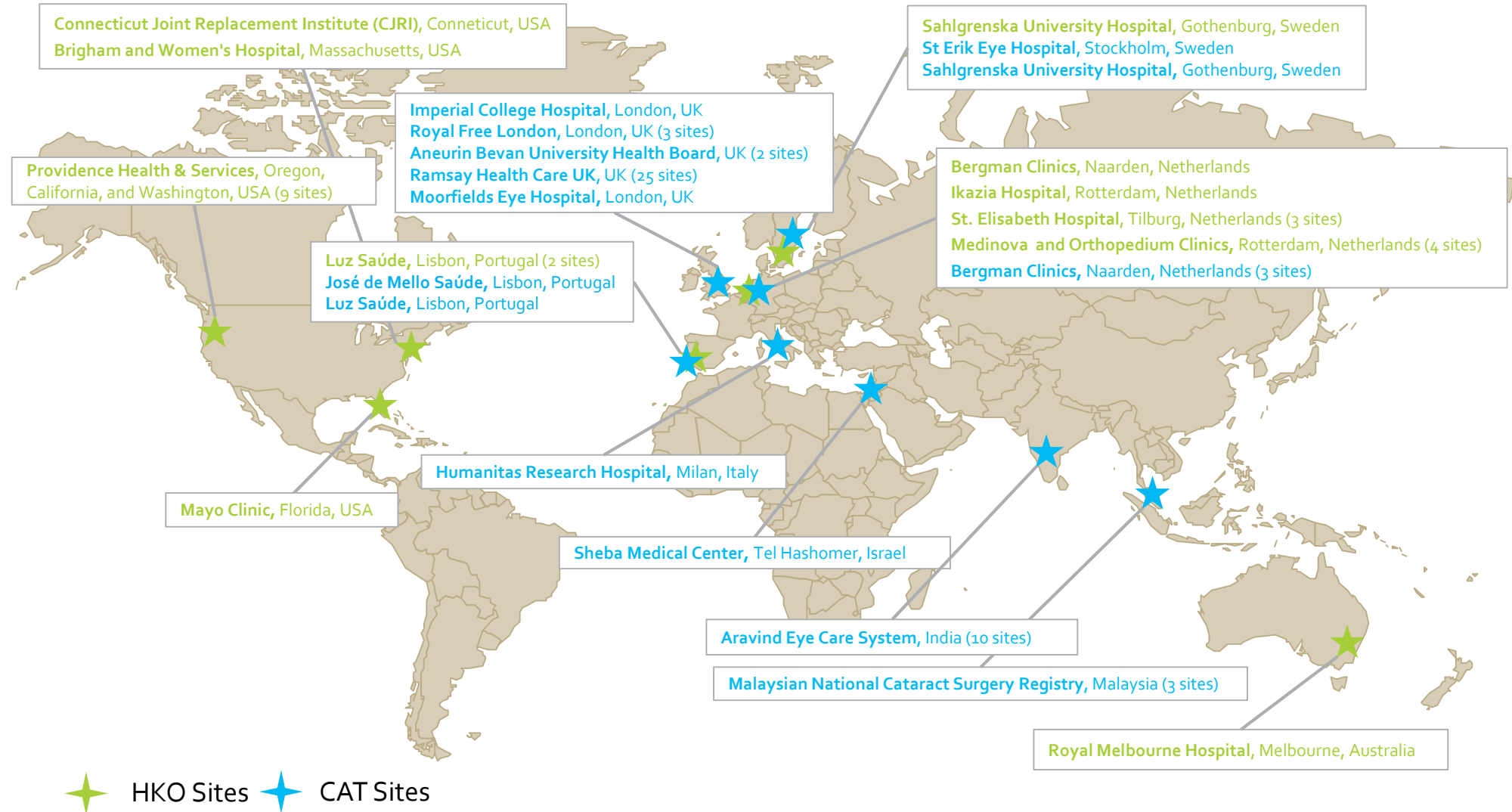
# The impact of measuring outcomes in Breast cancer: Santeon hospital network, Netherlands

By measuring the outcomes that matter most to patients, the Santeon hospital network in the Netherlands has identified improvement initiatives to increase the value of care for breast cancer patients.



Source: Data from Santeon hospital and NABON Breast Cancer Audit, Netherlands Comprehensive Cancer Organization: Santeon and BCG analysis

# GLOBE Pilots: Cataracts and Hip and Knee Osteoarthritis



# Next phase of ICHOM: Global Flagship Programmes

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- **Globally important conditions:** HIV, Malaria, Cancer, Diabetes, Respiratory
- **Integrated:** unified projects to define outcome measures, implement them and deliver true benchmarking
- **Scale:** international implementation, high volumes of data
- **Partnerships:** brings together life sciences, foundations/NGOs, clinicians, providers and payors
- **Data-driven:** standardised data platform to collect, manage, interpret and analyse outcomes data

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# Questions?

